

**SYSTEM AND METHOD FOR THE DIRECTIONAL RECEPTION AND
DESPREADING OF DIRECT-SEQUENCE SPREAD-SPECTRUM SIGNALS**

ABSTRACT OF THE DISCLOSURE

A system (100) and method for the reception and despreading of a code-division multiple access (CDMA) global positioning system (GPS) signal (200), or other direct-sequence spread-spectrum (DSSS) signals, is provided. An antenna array (102) receives the DSSS signal (200) over a plurality of elements (116). A preprocessor (104) down converts and digitizes the DSSS signal (200) to produce a signal stream (202) in the time domain. An FFT (106) transforms the signal stream (202) to the frequency domain. A beam former (108) generates a reception beam (201) for the DSSS signal (200) in the frequency domain, and also implements a narrowband frequency notch, if desired. A despreaders (110) despreads the transformed signal stream (204) in the frequency domain. An IFFT (112) transforms the despread signal stream (208) back to the time domain. And a postprocessor (114) converts the transformed despread signal stream (210) into a desired received signal stream (212) in the time domain.